Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A travel planning system comprising:

a requirements generator module to generate a plurality of <u>diverse</u> travel requirements; and

a selection module to output a set of diverse travel options smaller than a candidate set of travel options by selecting from the candidate set of travel options, for each <u>diverse</u> travel requirement in the plurality <u>of diverse travel requirements,</u> one or more travel options that satisfy that travel requirement[[,]]<u>;</u>

wherein the candidate set <u>of travel options</u> is represented using a data structure that compactly stores the candidate set of travel options.

2. (Previously presented) The travel planning system of claim 1 wherein the data structure comprises a graph data structure.

3. (Previously presented) The travel planning system of claim 1 further comprising a display to display the diverse set of travel options.

4. (Previously presented) The travel planning system of claim 1 further comprising:

a travel option generator module to generate a first ordered set of travel options using a first preference function and a second ordered set of travel options using a second preference function, and

wherein the selection module outputs a set of diverse travel options by selecting a first and second number of travel options from each of the first and second ordered set of travel options, respectively.

5. (Currently amended) The travel planning system of claim 1 wherein the requirements generator module further comprises a template

a module to define the set of diverse travel requirements by establishing a plurality of travel requirement templates, and for each travel requirement template,

defining a plurality of travel requirements, each of the travel requirements corresponding to a different value of the respective travel requirement template to produce the set of diverse travel requirements.

6. (Currently amended) The travel planning system of claim 1 wherein at least one of the diverse travel requirements within the plurality is not a user entered travel requirement.

7. (Currently amended) The travel planning system of claim 1 wherein the plurality of diverse travel requirements comprise at least one of travel on a particular carrier, non-stop travel, outbound travel departing in a predefined time period, return travel departing in a predefined time period, non-stop travel on a predefined airline, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date.

8. (Previously presented) The travel planning system of claim 7 wherein the predefined time period comprises morning, afternoon, evening or a predefined date.

Claims 9-26. (Cancelled)

27. (Previously presented) The travel planning system of claim 1 wherein the compact data structure comprises a directed acyclic graph.

28. (Previously presented) The travel planning system of claim 1 wherein the compact data structure comprises a grammar.

29. (Currently amended) A method for generating a diverse set of travel options, the method comprising:

receiving a candidate set of travel options based on a user input, the candidate set of travel options represented using a data structure that compactly stores the candidate set of travel options;

enumerating a first ordered list of travel options from the data structure that are compliant with a first travel requirement;

enumerating a second ordered list of travel options from the data structure that are compliant with a second travel requirement that represents a different value in a category identical to the first travel requirement; and

combining a first number of travel options from the first ordered list with a second number of travel options from the second ordered list to output a diverse set of travel options, smaller than a candidate set of travel options, that includes at least one travel option compliant with the first travel requirement and at least one travel option compliant with the second travel requirement.

30. (Previously presented) The method of claim 29 further comprising generating the first travel requirement and the second travel requirement based on a fixed list.

31. (Previously presented) The method of claim 29 further comprising generating the first travel requirement and the second travel requirement based on a predefined number of travel options required for the diverse set of travel options.

32. (Previously presented) The method of claim 29 further comprising generating the first travel requirement and the second travel requirement based on an ordering function.

33. (Previously presented) The method of claim 29 further comprising generating the first travel requirement and the second travel requirement based on the candidate set of travel options.

34. (Previously presented) The method of claim 29, wherein the data structure includes nodes that hold one or more values that can be used to provide travel options.

35. (Previously presented) The method of claim 34, wherein enumerating the first order list further comprises, for the first travel requirement,

storing an indication of those nodes in the data structure that are compliant with the first travel requirement, and

enumerating the first ordered list of travel options from the data structure ignoring non-compliant nodes; and

wherein enumerating the second order list further comprises, for the second travel requirement,

storing an indication of those nodes in the data structure that are compliant with the second travel requirement, and

enumerating the second ordered list of travel options from the data structure ignoring non-compliant nodes.

36. (Previously presented) The method of claim 34 wherein enumerating a first ordered list of travel options further comprises:

identifying children nodes for each parent node of the data structure; and

identifying a best solution for each node based on a best solution for each of the children nodes of the respective parent node.

37. (Previously presented) The method of claim 34 wherein the data structure comprises a total number of nodes less than a total number of travel options in the candidate set of travel options.

38. (Previously presented) The method of claim 34 wherein the nodes comprise at least one of an AND node, an OR node, and a terminal node.

39. (Previously presented) The method of claim 29 further comprising:

for a third travel requirement,

determining if the third travel requirement is fulfilled by the first travel requirement;

determining if the third travel requirement is fulfilled by the second travel requirement; and

eliminating the third travel requirement if the third travel requirement is fulfilled by the first travel requirement or the second travel requirement.

40. (Previously presented) The method of claim 29 further comprising rendering the diverse set of travel options on an output device.

41. (Previously presented) The method of claim 29 wherein at least one of the first and second travel requirements is not a user entered travel requirement.

42. (Currently amended) The method of claim 29 wherein the category of the first and second travel requirements comprises at least one of travel on a particular carrier, non-number of stops during travel, outbound travel departing in a predefined time period,

return travel departing in a predefined time period, non-stop travel on a particular airline, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date.

43. (Currently amended) The method of claim 42 wherein <u>values for</u> the predefined time period comprises morning, afternoon, evening or a predefined date.

44. (Previously presented) The method of claim 29 further comprising defining a template of travel requirements.

45. (Previously presented) The method of claim 44 further comprising generating the first and second travel requirements based on the template and the candidate set of travel options.

46. (Previously presented) The method of claim 44 further comprising analyzing the candidate set of travel options to determine parameter values for the template.

47. (Previously presented) The method of claim 44 wherein the template comprises at least one of travel on a particular carrier, non-stop travel, outbound travel departing in a predefined time period, return travel departing in a predefined time period, non-stop travel on a particular airline, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date.

48. (Previously presented) The method of claim 47 wherein the predefined time period comprises morning, afternoon, evening or a predefined date.

49. (Previously presented) The method of claim 29 wherein the data structure comprises a directed acyclic graph.

50. (Previously presented) The method of claim 29 wherein the data structure comprises a grammar.

51. (Currently amended) An article of manufacture having computer-readable program portions embodied therein for generating a diverse set of travel options, the article comprising instructions for causing a processor to:

receive a candidate set of travel options based on a user input, the candidate set of travel options represented by a data structure including nodes that hold one or more values that can be used to provide travel options;

for a first travel requirement,

indicate nodes in the data structure that are compliant with the first travel requirement, and

enumerate a first ordered list of travel options from the data structure ignoring non-compliant nodes;

for a second travel requirement that represents a different value in a category identical to the first travel requirement,

indicate nodes in the data structure that are compliant with the second travel requirement, and

enumerate a second ordered list of travel options from the data structure ignoring non-compliant nodes; and

combine a first number of travel options from the first ordered list with a second number of travel options from the second ordered list to output a diverse set of travel options, smaller than a candidate set of travel options, that includes at least one travel option compliant with the first travel requirement and at least one travel option compliant with second travel requirement.

Claim 52. (New) A method for generating a diverse set of travel options, the method comprising:

determining a candidate set of travel options, the candidate set of travel options being based on user input and represented using a data structure that compactly stores the candidate set of travel options;

defining a set of diversity requirements, with defining comprising:

establishing a plurality of travel requirement templates, for each travel requirement template,

defining a plurality of travel requirements, each of the travel requirements corresponding to a different value of the respective travel requirement template to produce the set of diversity requirements, and for each travel requirement in the set of diversity requirements,

selecting from the candidate set of travel options a travel option that satisfies that travel requirement;

combining the selected travel options for the travel requirements to generate the diverse set of travel options; and

displaying the diverse set of travel options to a user.

Claim 53. (New) The method of claim 52 wherein values for a particular travel requirement template are based on the candidate set of travel options.

Claim 54. (New) The method of claim 52 wherein the plurality of travel requirement templates include particular carriers, number of stops, outbound travel departing in a predefined time period, return travel departing in a predefined time period, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date.

Claim 55. (New) The method of claim 54 wherein values for the travel requirement template of particular carriers with corresponding travel requirements including a first particular airline and a second, different particular airline.

Claim 56. (New) An article of manufacture having computer-readable program portions embodied therein for generating a diverse set of travel options, the article comprising instructions for causing a processor to:

determine a candidate set of travel options, the candidate set of travel options being based on user input and represented using a data structure that compactly stores the candidate set of travel options;

define a set of diversity requirements with instructions to define comprising instructions to:

establish a plurality of travel requirement templates, for each travel requirement template,

define a plurality of travel requirements, each of the travel requirements corresponding to a different value of the respective travel requirement template to produce the set of diversity requirements, and for each travel requirement in the set of diversity requirements,

select from the candidate set of travel options a travel option that satisfies that travel requirement;

combine the selected travel options for the travel requirements to generate the diverse set of travel options; and

display the diverse set of travel options to a user.

Claim 57. (New) The article of claim 56 wherein values for a particular travel requirement template are based on the candidate set of travel options.

Claim 58. (New) The article of claim 56 wherein the plurality of travel requirement templates include particular carriers, number of stops, outbound travel departing in a

predefined time period, return travel departing in a predefined time period, or travel with an outbound departure on a first predefined date and a return arrival on a second predefined date.

Claim 59. (New) The article of claim 58 wherein values for the travel requirement template of particular carriers with corresponding travel requirements include a first particular airline and a second, different particular airline.